

**United States of America**

**DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE**

**Agenda Item 1.11** : to review sharing criteria and regulatory provisions for protection of terrestrial services in particular terrestrial television broadcasting services, in the band 620 – 790 MHz from BSS networks and systems, in accordance with **Res. 545 (WRC-03)**”

**Background Information** : The following proposal is a **Modification** and **Augmentation** to CITEL PCC.II IAP for WRC-07 Agenda Item 1.11.

The sixth meeting of CITEL PCC.II developed an IAP for WRC-07 Agenda Item 1.11, which the US signed. The United States strongly supports the goal of this IAP, i.e. to protect terrestrial services in the 620-790 MHz band from harmful interference of transmitting co-frequency broadcast-satellite systems. In order to ensure the best protection of terrestrial systems, the United States believes that certain modifications are needed to augment the IAP. These modifications, summarized in the following paragraphs, are provided in the attached edits to the current IAP.

The current IAP, that specifies NOC to Articles **5**, **9**, and **11** of the Radio Regulations, needs to be slightly modified because the Article 5 provision dealing with the 620-790 MHz BSS allocation, No. **5.311**, does not indicate a reference bandwidth for the pfd. One is needed to avoid questions over the level of protection afforded to terrestrial services. Furthermore, Res. **545**, the companion resolution to this agenda item, should be modified to reflect that studies on this topic are completed and to address transitional measures (e.g., how the Bureau should process the BSS submissions suspended by WRC-03).

In order to define an appropriate reference bandwidth for the pfd, it is assumed that the reference bandwidth for the current pfd is 24 MHz, recognizing that the larger the bandwidth assumed for a given pfd value, the greater protection provided to terrestrial services. Then, to protect broadcast systems and more narrowband systems, the pfd is translated into a 4 kHz bandwidth.

The following pages indicate the modification to the IAP for agenda item 1.11 in strikethrough/underline format.

**VI MEETING OF PERMANENT  
CONSULTATIVE COMMITTEE II:  
RADIOCOMMUNICATIONS  
INCLUDING BROADCASTING  
October 25 to 28, 2005  
San José, Costa Rica**

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**INTER-AMERICAN PROPOSALS OF WSG-2**

**(Item on the Agenda: 4.1 )**

**(Document submitted by working sub-group 2 (WSG-2) )**

**Agenda Item 1.11:** *to review sharing criteria and regulatory provisions for protection of terrestrial services in particular terrestrial television broadcasting services, in the band 620 – 790 MHz from BSS networks and systems, in accordance with Resolution 545 (WRC-03)*

## **Background**

Under footnote No. **5.311**, the band 620-790 MHz may be used for assignments to television stations using frequency modulation in the BSS (GSO or non-GSO). Since this band is extensively used by terrestrial applications, Recommendation **705 (WARC-79)** includes, among other things, satellite pfd limits needed to protect the terrestrial services, in particular, the terrestrial television broadcasting service that uses this band extensively in all three Regions.. It should also be noted that there are allocations to the fixed and mobile services in some regions in this band that also need to be addressed. In particular, some Region 2 administrations added their names to footnote No. **5.293** which allocates the band to the fixed and mobile services on a primary basis in several Region 2 countries.

In Region 2 the 620-790 MHz band is used extensively by free-to-air TV systems. As a result of this extensive use of the 620-790MHz band, Region 2 Administrations have not made allowances for external interference in the deployment of their terrestrial TV systems or in the development of their TV allotment plans or in the development of other fixed and mobile services and therefore, there are no excess margins which could have been used to accommodate additional interference from systems in the BSS.

WRC-03 adopted a freeze on the processing of BSS satellite filings in the band until the next WRC as per a new Resolution **545 (WRC-03)** and suspended the application of No. **5.311** and Recommendation **705 (WARC-79)** until that date. The Resolution was acceptable to all parties with the understanding:

- 1) it allows for studies to continue on the appropriate protection levels for the terrestrial broadcasting service (BS) to be determined;
- 2) it does not impact the Regional Planning Conference (RRC-04/06, Region 2 is not affected) for these services;
- 3) it places a moratorium on further deployments of BSS networks in these bands until such studies are complete.

This proposal modifies No. 5.311 and Res. 545 to ensure the complete protection of the current and future usage of the broadcast, mobile, and fixed services in the 620-790 MHz band from interference from broadcast satellite operations in this same band. The purpose of this propose is to restrict the future deployment of broadcast satellite systems in a band that is very extensively used by terrestrial services.

Since neither No. 5.311 nor Rec. 705 indicate a reference bandwidth for the BSS pfd limit in 620-790 MHz band, a reference bandwidth of 24 MHz is assumed and then translated further to a 4 kHz bandwidth, and No. 5.311 is accordingly modified. Res. 545 from WRC-03 is modified to address

transitional issues related to resuming processing of BSS networks after WRC-03 suspended such processing by the BR.

As a consequence, Rec. 705, “Criteria to be applied for frequency sharing between the broadcasting-satellite service and the terrestrial broadcasting service in the band 620-790 MHz”, is deleted since its relevant content, the pfd limit reference, is contained in the modifications to No. 5.311 and Res. 545, and after WRC-07 the broadcast satellite and terrestrial broadcast issues in this band will have been resolved.

**MOD 5.311** Within the frequency band 620-790 MHz, assignments may be made to television stations using analog frequency modulation in the broadcasting-satellite service subject to agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected (see Resolutions **33 (Rev.WRC-03)** and **507 (Rev.WRC-03)**). Such stations shall not produce a power flux-density in excess of the value  $-129$   $166.8 \text{ dB(W/m}^2/4 \text{ kHz)}$  for all angles of arrival ~~less than  $20^\circ$  (see Recommendation 705)~~ within the territories of other countries without the consent of the administrations of those countries. Resolution **545 (WRC-0307)** applies. (WRC-~~0307~~)

**SUP      Rec. 705**

**Reasons:** Region 2 administrations have no plans to implement BSS systems in the band 620-790 MHz. The administrations in Region 2 are currently operating or planning to operate a large number of terrestrial analog and digital television broadcasting systems. In addition, some Region 2 administrations will be implementing mobile and fixed services, including public safety applications. As a result of this extensive use of the 620-720MHz by existing systems, Region 2 Administrations have not allocated any additional interference margins for the protection of terrestrial TV broadcasting and therefore any additional interference from BSS will place undue constraints on the existing and planned services in Region 2.

**MOD      Res. 545**

**RESOLUTION 545 (RREV. WRC-073)**

**Technical and regulatory proceduresansitional measures relating to the broadcasting-satellite service networks operating in the 620-790 MHz band**

The World Radiocommunication Conference (Geneva, 2007~~3~~),

*considering*

a) that No. **5.311** provides the conditions under which the band 620-790 MHz may be used for assignments to television stations using analog frequency modulation in the broadcasting-satellite service (BSS);

~~b)~~ that it is necessary to adequately protect terrestrial services including the terrestrial television broadcasting systems and fixed and mobile systems in this band;

~~c)~~ ~~that the sharing and associated provisions for satellite networks are under study in ITU-R with respect to the impact of such systems on the terrestrial services;~~

~~cd)~~ that geostationary-satellite (GSO) BSS networks and non-geostationary (non-GSO) BSS satellite networks or systems are at the stage of advance publication or coordination, or have been notified in the 620-790 MHz frequency band;

~~ed)~~ ~~that studies are being undertaken to determine, *inter alia*, the planning criteria to be used for the Regional Radiocommunication Conference (RRC-04/05) effected a terrestrial digital television broadcasting plan for Region 1 and one country in Region 3;~~

~~ef)~~ ~~that the impact of these GSO BSS networks and non-GSO BSS satellite networks or systems on terrestrial services including digital and analogue television broadcasting systems has yet to be examined;~~

~~fg)~~ that there are at present few GSO networks operating in accordance with No. **5.311**;

~~h)~~ ~~that it would be inappropriate to draw any conclusions regarding the form and levels of the protection criteria and their application to GSO BSS networks and non-GSO BSS satellite networks or systems until the completion of relevant studies and the approval of corresponding ITU-R Recommendations;~~

~~gi)~~ that many administrations have extensive infrastructure for the transmission and reception of analogue and digital television services between 620 MHz and 790 MHz,

h) that some administrations are using or plan to use portions of the 620-790 MHz band for fixed and mobile service applications

*noting*

~~a) — that the protection of terrestrial television services in the band 620-790 MHz requires more study before any conclusion can be made about the appropriate pfd values;~~

~~b) — that studies called for in Recommendation **705** have been recently initiated but not completed;~~

~~c) — that the reference bandwidth of the pfd limit in No. **5.311** is undefined and guidance is urgently needed and has been requested by the Radiocommunication Bureau;~~

~~d) — that the existing provisions related to the band 620-790 MHz are ambiguous and have been difficult to apply by administrations and the Bureau, that WRC-03 suspended processing of submissions of BSS networks or systems in the 620-790 MHz band, irrespective of their date of receipt, pending WRC-07 decisions;~~

a) that WRC-03 specified that GSO BSS networks and non-GSO BSS satellite networks or systems in the frequency band 620-790 MHz other than those notified, brought into use and the date of bringing into use confirmed before the end of WRC-03, shall not be brought into use before the end of WRC-07;

b) that transitional measures are needed to address the WRC-03 decisions in notings a) and b).

*resolves*

1 that, at the end of WRC-07, the processing of submissions of GSO BSS networks and non-GSO BSS satellite networks or systems in the frequency band 620-790 MHz received by the Bureau and not brought into use prior to 5 July 2003, irrespective of their date of receipt, shall be suspended pending WRC-07 decisions on the sharing criteria, including the pfd required to protect the terrestrial services in this frequency band shall resume, with No. 5.311 as revised by WRC-07 applied;

2 to suspend apply the application of No. 5.311 and Recommendation 705 until the end of WRC-07 with respect as revised by WRC-07 to the GSO BSS networks and non-GSO BSS satellite networks or systems in the frequency band 620-790 MHz and for which notification is received between 5 July 2003 and the end of WRC-07;

3 that No. 5.311 as revised by WRC-07 shall be applied to all GSO BSS networks and non-GSO BSS networks or systems in the frequency band 620-790 MHz other than those notified, brought into use and the date of bringing into use confirmed before the end of WRC-03;

43 that, in accordance with No. 5.311 (as revised by WRC-07), GSO BSS networks and non-GSO BSS satellite networks or systems in the frequency band 620-790 MHz other than those notified, brought into use and the date of bringing into use confirmed before the end of WRC-03, shall not be brought into use before the end of WRC-07 no submissions for GSO BSS networks and non-GSO BSS satellite networks or systems in the frequency band 620-790 MHz under Articles 9 or 11 of the Radio Regulations involving digital transmission shall be accepted;

54 that the notified date of bringing into use referred in Nos. 11.44 and 11.48 for GSO BSS networks and non-GSO BSS satellite networks or systems in this frequency band for which the Bureau receives notification prior to 5 July 2003 shall be extended by the length of the period from the date of receipt by the Bureau of the complete advanced publication information to the end of WRC-07; 5 that the BSS systems referred to in resolves 1 above shall not be taken into account in the application of resolves 3.1C and 3.4 of Council Resolution 1185;

6 that in the band 620-790 MHz, No. 22.2 shall continue to apply to assignments to non-GSO satellite systems in the BSS, including those for which complete notification information is considered to have been received by the Bureau prior to 5 July 2003 in respect of assignments to GSO satellite networks in the BSS for which complete coordination information is considered to have been received by the Bureau prior to 5 July 2003. The relationship between GSO networks and non-GSO satellite networks or systems for which complete Appendix 4 information has been received by the Bureau after 4 July 2003 in the band 620-790 MHz is subject to the procedures to be decided at WRC-07,

*invites ITU-R*

to conduct studies as a matter of urgency, and develop sharing criteria and regulatory provisions, prior to WRC-07, for the protection of terrestrial services, in particular terrestrial television broadcasting services, in the 620-790 MHz band from GSO BSS networks and non-GSO BSS satellite networks or systems which it is planned to operate in this band,

*instructs the Director of the Radiocommunication Bureau*

~~subject to the decisions taken by WRC-07, to resume, as appropriate, the application of Nos. 5.311 (as revised by WRC-07), 9.34 and 11.30 and other relevant associated provisions of the Radio Regulations;~~

~~instructs the Secretary General~~

~~to bring this Resolution to the attention of the Regional Radiocommunication Conference, 2004/2005 (RRC 04/05)~~

**Reasons:** To bring the Resolution up to date and to specify how BSS filings will be processed.

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